

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Original) An on-vehicle breakdown-warning report system, wherein

an occurrence of break-down is detected and judged based on a signal in an electronic control system or a diagnosis display system installed on a control apparatus for an engine ignition system, a charging system, an engine fuel system, a engine cooling system, a power transmission system, and an oil lubricating system of an automobile; and

a diagnostic data is sent to an information terminal device of a diagnosis and maintenance agency or a service company having a diagnosis and maintenance agency as a contents information by using an on-vehicle mobile communication apparatus, and an action for an emergency measures and a maintenance schedule is asked.

2. (Original) An on-vehicle breakdown-warning report system, wherein

an occurrence of break-down is detected and judged based on a signal in an electronic control system installed on a control apparatus for an engine ignition system, a charging system, an engine fuel system, a engine

cooling system, a power transmission system, and an oil lubricating system of an automobile or a diagnosis display system;

a diagnostic data is sent to an information terminal device of plural diagnosis and maintenance agencies or a service companies having plural diagnosis and maintenance agencies as a contents information by using an on-vehicle mobile communication apparatus, and an action for an emergency measures and a maintenance schedule is asked; and

an estimate for maintenance from said diagnosis and maintenance agencies is received and said estimate is presented to a user, said user is allowed to select a diagnosis and maintenance agency.

3. (Original) A vehicle break-down diagnosis and maintenance diagnosis system, wherein

by comparing a control data of a powertrain and vehicle control system in a designated operation condition with an allowable zone for an ordinary operation condition, when a break-down diagnostic processing program installed in a vehicle provides a diagnosis result reporting that said control data is located outside said allowable zone, said diagnosis result is reported to a driver with an on-vehicle display panel;

said break-down diagnostic processing program outputs a diagnostic data karte recording a history reaching an abnormal data, and transmits said diagnostic data karte via a mobile data communication terminal; and

an answer from a maintenance agency regarding a necessity for maintenance, an estimate for renewal parts and inspection and maintenance work, and a necessity for inspection and measurement is received, and an inspection and maintenance work is ordered.

4. (Original) A server system for receiving and processing a data through a network or a public circuit, wherein

said server system receives a diagnostic data karte from a wireless communication system installed on plural vehicles; stores said diagnostic data karte into a vehicle information data base; and performs a break-down diagnosis based on past and present diagnostic data carte; and

said server system sends an answer agency regarding a necessity for maintenance, an estimate for renewal parts and inspection and maintenance work, and a necessity for inspection and measurement is received, and an inspection and maintenance work is ordered.

5. (Original) A vehicle break-down diagnosis and maintenance diagnosis system of Claim 3, wherein

a vehicle break-down prediction diagnosis level is defined in an intermediate zone between an allowable zone for an ordinary operation condition and a break-down diagnosis level for judging fault threshold for running a vehicle.

6. (Original) An on-vehicle breakdown-warning report system, comprising:

an abnormal data detection apparatus for detecting an abnormal data based on a control data in a designated operation condition for component parts forming a control system including powertrain control and vehicle control and a control data in an ordinary operation condition;

an on-vehicle mobile data communication terminal;

an on-vehicle panel for accepting an abnormal data from said mobile data communication terminal and displaying a diagnostic result based on an abnormal data for said individual component parts of said control system; and

a maintenance information acquisition apparatus for, when a component part is specified on said on-vehicle panel, sending a control data or an diagnostic data for said component part, requesting a maintenance information to a maintenance agency outside a vehicle, and acquiring a maintenance information from said maintenance agency.

7. (Original) An on-vehicle breakdown-warning report system, comprising:

a break-down diagnosis apparatus for outputting a diagnostic result based a control data in a designated operation condition for a control system including powertrain control and vehicle control and a control data in an

ordinary operation condition;

an on-vehicle panel for displaying a diagnostic result by said breakdown diagnosis apparatus for individual component parts of said control system;
and

a memory apparatus for storing a control data for individual component parts, or a diagnostic data as a diagnostic result obtained by comparing said control data with an allowable zone;

an on-vehicle mobile data communication terminal;

a vehicle maintenance selection apparatus,

comprising a maintenance information acquisition apparatus for, when a component part is specified on said on-vehicle panel, sending a control data or an diagnostic data for said component part, requesting a maintenance information and an estimate for charge required for inspection and maintenance work to plural maintenance agencies outside a vehicle, and acquiring a maintenance information individually from said plural maintenance agencies,

for displaying acquired plural maintenance information and estimation information, and

for allowing a user to select a maintenance agency to which a maintenance work is ordered based displayed maintenance information and estimation information.

8. (Currently Amended) An on-vehicle breakdown-warning report system of [Claim 6 or 7,] Claim 6, wherein

said control system further includes body control and information control.

9. (Currently Amended) An on-vehicle breakdown-warning report system of [Claim 6 or 7,] Claim 6, wherein

a measured data or setting data in an ordinary operation condition is used for a control data in an ordinary operation condition.

10. (Original) A vehicle breakdown-warning report system, having a vehicle maintenance information apparatus comprising:

a break-down diagnosis apparatus for outputting a diagnostic result for a control system including powertrain control and vehicle control;

an on-vehicle panel for displaying a diagnostic result;

an on-vehicle mobile data communication terminal apparatus; and

a maintenance information acquisition apparatus for sending a diagnostic result through said mobile data communication terminal apparatus, and for sending a request for maintenance information and a request for an estimate of maintenance work to a maintenance agency,

wherein said vehicle maintenance information apparatus acquires an answer for maintenance information and estimation information requested from said mobile data communication terminal apparatus and obtained from plural maintenance information service terminals of plural maintenance agencies, and allows a user to order a maintenance work to a selected maintenance agency.

11. (Original) A vehicle breakdown-warning report system, having a vehicle maintenance information apparatus comprising:

a break-down diagnosis apparatus for outputting a diagnostic result for a control system including powertrain control and vehicle control;

an on-vehicle panel for displaying a diagnostic result;

an on-vehicle mobile data communication terminal apparatus;

a maintenance information acquisition apparatus for sending a diagnostic result through said mobile data communication terminal, and for sending a request for maintenance information and a request for an estimate of maintenance work to a maintenance agency; and

a maintenance information service terminal for a maintenance agency having

a server for inputting a transmission information from said mobile data communication terminal apparatus via Internet for a maintenance agency to acquire an information, and

a maintenance information service terminal for answering a maintenance information requested for service,

wherein a vehicle maintenance work is ordered from said vehicle maintenance information apparatus to said maintenance information service terminal.